PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing Traffic Control Signal with street lighting and interconnect at the intersection of MD 119 (Great Seneca Highway) at Sam Eig Highway in Montgomery County. The dual right turn lane on Sam Eig Highway is to be signalized. MD 119 (Great Seneca Highway) is assumed to run a north-south direction.

II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA four-phase, fully-actuated mode, with the MD 119 (Great Seneca Highway) approaches continuing to run concurrently. The Exclusive left turn phase for the southbound approach of MD 119 (Great Seneca Highway) shall remain operational. The pedestrian phase across the east leg of Sam Eig Highway shall remain in operation. A dual right turn phase for the westbound Sam Eig Highway approach shall be provided. The dual right turn phase shall operate in conjunction with the westbound Sam Eig Highway left turn phase and the southbound MD 119 phase. Optically programmed signal heads shall be installed on northbound MD 119 to stop traffic prior to the merge area of the dual right turn ramp. A concurrent pedestrian phase shall be added across the dual right turn phase on the ramp.

2. An existing full-traffic-actuated, eight-phase controller with all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall utilized at this intersection.

III. SPECIAL NOTES

1. The Contractor shall be responsible for terminating all signal cables, to the appropriate terminals and shall properly label each cable.

2. All controller cabinet wiring will be performed by the S.H.A. Signal Shop Contact Mr. Ed Rodenhizer(Dave Swartz) at (410) 787-7650 seventy-two hours in advance of intended work.

3. All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.

EQUIPMENT LIST

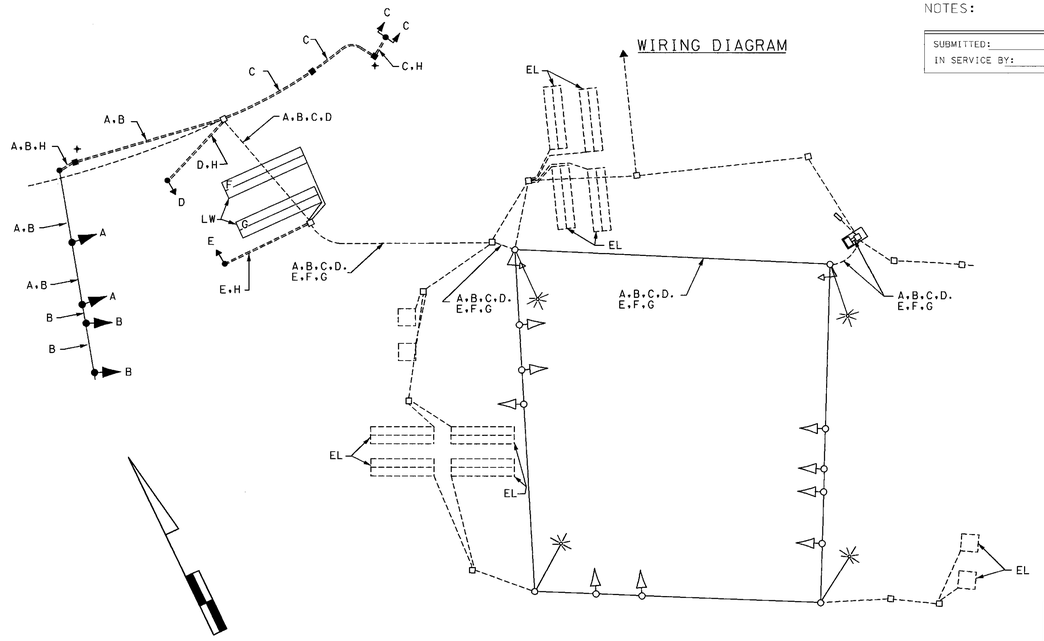
A. EQUIPMENT TO BE SUPPLIED BY MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION AND INSTALLED BY THE CONTRAOR

ITEM NO.	DESCRIPTION	QUANTITY
8087	R10-4(1) Pedestrian education sign, (9" x 12") pole mounted.	2 Each
8088	R3-4 "NO U-TURN (SYMBOLIC)" sign, (30" X 30") span wire mounted.	1 Each
8088	M6-2 ARROW SYMBOL(right), sign (21"x15") pole mounted.	1 Each
8088	M6-2 ARROW SYMBOL(left), sign (21"x15") pole mounted.	1 Each
8088	W3-3 "SIGNAL AHEAD" sign, (48" x 48") pole mounted with hardware.	1 Each
8088	W11-2 "PEDESTRIAN CROSSING (SYMBOLIC)" sign, (30" x 30") pole mounted.	2 Each
8088	W13-4 "ON RAMP" sign, (24" x 36") pole mounted with hardware.	1 Each
8103	27' steel pole with a 70' mast arm. (Note: Anchor bolts will be 2" x 90".)	1 Each
8106	10' breakaway pedestal pole with transformer base.	2 Each
8106	14' breakaway pedestal pole with transformer base.	1 Each
8122	12", one-way, one-section (Y) traffic signal head with adjustable bracket for mast arm mounting and tunnel visors.	2 Each
8124	12", one-way, two-section (DW,W) symbolic pedestrian signal head having proper post top adapter for pedestal mounting and cutaway visors.	2 Each
Neg.	12", one-way, three-section optically programmed (R,Y,G) traffic signal head with adjustable bracket for mast arm mounting and tunnel visors.	4 Each

EQUIPMENT LIST (CONT)

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.**

ITEM NO.	DESCRIPTION	QUANTITY
2002	Test pit excavation.	2 C.Y.
5016	4" concrete sidewalk, mix No. 2.	125 S.F.
5022	Remove sidewalk.	125 S.F.
8001	Concrete foundation.	7 C.Y.
8023	3" polyvinyl chloride electrical conduit (Schedule 80) (trenched).	475 L.F.
8031	1" liquid tight flexible non metallic conduit (detector wire sleeve).	10 L.F.
8043	Ground rod, 3/4" diameter x 10' length with clamp.	4 Each
8060	Loop wire (No. 14 A.W.G.) encased in 1/4" flexible tubing.	940 L.F.
8062	2-conductor electrical cable (No. 14 A.W.G.) (aluminum shielded).	905 L.F.
8065	3-conductor electrical cable (No. 14 A.W.G.).	995 L.F.
8066	5-conductor electrical cable (No. 14 A.W.G.).	1400 L.F.
8075	1-conductor electrical cable (No. 6 A.W.G.) stranded bare copper ground wire.	105 L.F.
8123	Install optically programmed signal head.	4 Each
8131	Traffic signal handbox (pullbox).	3 Each
8132	Sawcut.	255 L.F.
Neg.	5-conductor electrical cable (No. 10 A.W.G.).	890 L.F.



SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

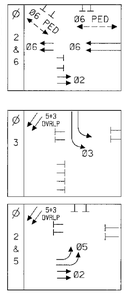
NORBECK ROAD RUNS IN AN EAST-WEST DIRECTION

INTERSECTION: NORBECK ROAD (EXT) AND NORWOOD ROAD NO. _____

	SIGNAL HEAD INDICATIONS			
SIGNAL NO.	1,2,3,4,8,9 12,13,14,15	10,11	5,6,7	16,17, 18,19
TOTAL:	10	2	3	4
	R		R	
	Y	Y	Y	
	G		G	
	12"	12"	12"	9" or 12" X

LEGEND
- OPTICALLY LIMITED
- R RED
- Y YELLOW
- G GREEN
- ◄ ARROW
- F FLASHING

PHASING



	SEQUENCE OF OPERATION										
SIGNAL NO.	INTERVAL 1	2	3	4	5	6	7	8	9	10	FLASH
1	G	G	Y	R	R	R	R	R	R	R	FL/Y
2	G	G	Y	R	R	R	R	R	R	R	FL/Y
3	G	G	Y	R	R	R	R	R	R	R	FL/Y
4	G	G	Y	R	R	R	R	R	R	R	FL/Y
5	◄R-	◄R-	◄R-	◄R-	◄R-	◄R-	◄R-	◄G-	◄Y-	◄R-	FL/◄R-
6	◄R-	◄R-	◄R-	◄R-	◄R-	◄R-	◄R-	◄G-	◄Y-	◄R-	FL/◄R-
7	◄R-	◄R-	◄R-	◄R-	◄R-	◄R-	◄R-	◄G-	◄Y-	◄R-	FL/◄R-
8	G	G	Y	R	R	R	R	G	G	G	FL/Y
9	G	G	Y	R	R	R	R	G	G	G	FL/Y
10	FL/Y	FL/Y	FL/Y	FL/Y	DARK	DARK	DARK	DARK	FL/Y	FL/Y	FL/Y
11	FL/Y	FL/Y	FL/Y	FL/Y	DARK	DARK	DARK	DARK	FL/Y	FL/Y	FL/Y
12	R	R	R	R	G	Y	R	R	R	R	FL/R
13	R	R	R	R	G	Y	R	R	R	R	FL/R
14	R	R	R	R	G	G	G	G	Y	R	FL/R
15	R	R	R	R	G	G	G	G	Y	R	FL/R
16	WK	FL/DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
17	WK	FL/DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
18	WK	FL/DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
19	WK	FL/DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
PHASE	2 & 6		ALL RED		3		ALL RED	2 & 5		ALL RED	

NOTES:

SUBMITTED: _____ CHECKED: _____ APPROVED: _____
IN SERVICE BY: _____ DATE: _____ TIME: _____

WIRING KEY

- A, B } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- C - 5-CONDUCTOR ELECTRICAL CABLE (NO. 10 A.W.G)
- D, E } 3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- F, G } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G) ALUMINUM SHIELDED
- H - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- LW - LOOP WIRE (NO. 14 A.W.G.)
- EL - LOOP WIRE (NO. 14 A.W.G.) EXISTING
- + - GROUND ROD

STREET TRAFFIC STUDIES, LTD.
400 Crain Hwy.,NW.
Glen Burnie,MD 21061
Ph (410) 590-5500
Fax (410) 590-9637

4050AGI.DGN

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
MD 119 (GREAT SENECA HIGHWAY) AT SAM EIG HIGHWAY

DRAWN BY: ROB CICCHINI	F.A.P. NO.	TS NO. 4059C	SHEET NO. 2 OF 2
CHECKED BY: R ZACHERL	S.H.A. NO.		
SCALE: NONE	COUNTY: Montgomery	T.I.M.S. NO. F531	
DATE: 10-3-02	LOG MILE:		

...\4050\4050a\4050agi.dgn Oct. 04, 2002 08:44:18